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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,882	12/20/2000	Hiroki Nakahara	9319S-000170	8241

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EXAMINER

AKKAPEDDI, PRASAD R

ART UNIT PAPER NUMBER

2871

DATE MAILED: 11/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/742,882

Applicant(s)

NAKAHARA, HIROKI

Examiner

Prasad R Akkapeddi

Art Unit

2871

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings filed on 12/20/2000 are acceptable subject to correction of the informalities indicated on the attached "Notice of Draftperson's Patent Drawing Review," PTO-948. In order to avoid abandonment of this application, correction is required in reply to the Office action. The correction will not be held in abeyance.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 4-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims recite the limitation 'wherein the alignment layer is formed such that it extends to cover the surface of at least one of the first conductive member and the second conductive member', whereas previously alignment layers (plural) were identified in the claims. So, it is not clear which one of these alignment layers is formed such that it extends to cover the surface. Besides, it is

also not clear how one alignment layer can extend to cover the surface of at least one of the first conductive member and the second conductive member.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Tsuda et al. (Tsuda) (JP 11-002820), applicant's cited reference.

As to claim 1: Tsuda discloses a liquid crystal device having a first substrate (1) and a second substrate (3) which have electrodes (4, 10) and alignment layers (2, 5) formed on surfaces thereof and are attached to each other with a liquid crystal (11) sealed having a first conductive member (10) formed on a surface of a peripheral portion of the first substrate (1), a second conductive member (4) formed on a portion on the second substrate (3) that opposes the first conductive member (10) and a vertical conducting portion having a conductive material (9) containing conductive particles (6) for conductive connection between the first conductive member (10) and the second conductive member (4), wherein the alignment layer (5) is formed such that it extends to cover the surface of at least one of the first conductive member (4) and the second conductive member (10) and the conductive particles (6) extend

through the alignment layer (pierce, abstract, line 14) to be in conductive contact with the first conductive member (4) and the second conductive member (10).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

8. Claim 4 is rejected under 35 U.S.C. 102(e) as being anticipated by Yamagishi et al. (Yamagishi) (U.S. Patent No. 6,466,294).

As to claim 4: Yamagishi discloses a liquid crystal device having a first substrate (1) and a second substrate (2) which have electrodes (14, 8) and alignment layers (7) formed on surfaces thereof and are attached to each other with a liquid crystal sealed (4) and a vertical conducting portion (9) between the first conductive member (14) and the second conductive member (8), wherein the alignment layer (7) is provided on a surface of the first conductive member except a place where the conductive particles are provided (Fig. 2A) and the conductive particles are in electrically conductive contact with the first conductive member and the second conductive member.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2, 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuda in view of Yamagishi.

a. As to claims 2, 3 and 7: Although Tsuda discloses that the alignment layer (5) covers at least one of the first conductive member (10) and the second conductive member (4) is formed on an entire surface of an area of a substrate surface where the first substrate (1) and the second substrate (4) oppose each other, Tsuda does not explicitly disclose that the alignment layer does not cover the place where the conductive particles are disposed. Yamagishi on the other hand, in disclosing a similar liquid crystal display device discloses that the alignment layer (7) does not cover the place where the conductive particles (9) are disposed (Fig. 6) (Col. 7, lines 6-7). Yamagishi also discloses that the conductive particles (9) are in the sealing adhesive (Col. 7, lines 8-9) (Fig. 6), thus making the conductive material as a sealing material for sealing a liquid crystal (4) between the first substrate (1) and the second substrate (2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the conductive sealer as disclosed by

Yamagishi to the liquid crystal device disclosed by Tsuda for maximizing the screen size and offer liquid crystal display panels having narrow frame.

11. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuda .

b. As to claims 5 and 6: A method claim should consist of a series of steps necessary to fabricate the device. The recitation in claim 5 does not contain any specific method steps (except in some generalities) and as such it is not clear how this device could be fabricated. However, Tsuda discloses a liquid crystal device having a first substrate (1) and a second substrate (3) which have electrodes (4, 10) and alignment layers (2, 5) formed on surfaces thereof and are attached to each other with a liquid crystal (11) sealed having a first conductive member (10) formed on a surface of a peripheral portion of the first substrate (1), a second conductive member (4) formed on a portion on the second substrate (3) that opposes the first conductive member (10) and a vertical conducting portion having a conductive material (9) containing conductive particles (6) for conductive connection between the first conductive member (10) and the second conductive member (4), wherein the alignment layer (5) is formed such that it extends to cover the surface of at least one of the first conductive member (4) and the second conductive member (10) and the conductive particles (6) extend through the alignment layer (pierce, abstract, line 14) to be in conductive contact with the first conductive member (4) and the second conductive member (10). Tsuda also discloses that the first substrate (1) and the second substrate (3) are

attached to each other (Fig. 1) via the conductive material (6) and pressure (compression-bonding) (abstract, line 13) is applied thereby causing the conductive particles to break through the alignment layers (2, 5) to be in electrically conductive contact with the first conductive member (10) and the second conductive member (4). Tsuda also discloses that the alignment layers (2, 5) are formed on an entire area of the surface of the first substrate (1) and the second substrate (3) which oppose each other (Fig. 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the method to the device disclosed by Tsuda since a method of manufacturing is necessary for the device to be practicable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 703-305-4767. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.

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PRA

November 26, 2002

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TECHNICAL STAFF